

State of Alaska  
Department of Fish and Game  
Nomination for Waters  
Important to Anadromous Fish

1990  
Year of Revision

ALASKA DEPT. OF  
FISH & GAME

NOV 06 1990

REGION II  
HABITAT DIVISION

Anadromous Water Catalog Volume 4/82 Rev. - 11/86 Southcentral

USGS Quad (S) Seward B-7

Name of Waterway Primrose Creek

Anadromous Water Catalog Number of Waterway \_\_\_\_\_

Not numbered 244-3010010-2246

Change to \_\_\_\_\_ Atlas

\_\_\_\_\_ Catalog

\_\_\_\_\_ Both

Addition X

Deletion \_\_\_\_\_

Correction \_\_\_\_\_

Name addition:

USGS name Primrose Cr.

Local name " "

For Office Use

Nomination # 91 079

[Signature]  
Regional Supervisor

12/20/90  
Date

ALASKA DEPT. OF  
FISH & GAME SJS

12/21/90

DEC 10 1990 FI  
Drafted

12/21/90  
Date

REGION II  
HABITAT DIVISION

Species	Date(s) Observed	Spawning	Rearing	Migration
<u>Sockeye Salmon</u>	<u>9/89, 8/90, 9/90</u>			<u>X</u>

Comments: Provide any clarifying information, including number of fish observed, location of fish survey data, etc.

Foot survey was performed starting at the mouth, wading upstream approximately 1/4 mile. See attached survey forms.

Attach a copy of a map showing location of mouth and upper points of each species, specific stream reaches identified for spawning or rearing, locations of barriers, such as falls. Attach a copy of the fish survey data, if available.

Name of Observer (please print) Mark Wenger

Date: 11/5/90 Signature: Mark A. Wenger USFS Fishery Biologist

Address:

Seward Ranger District  
PO Box 390

Seward, AK 99664

Signature of Area Biologist:

David E. [Signature] (Kenai Peninsula Area  
Asst. Area Biologist)

ADULT ESCAPEMENT SURVEY

LOCATION/CREEK Primrose ck DATE Aug 8, 1990

WEATHER Overcast, rain

WATER CONDITIONS Low

VISABILITY Fair - Good OBSERVERS Winter, Thissen

SPECIES Red Salmon ALIVE 15 DEAD 0

SPECIES \_\_\_\_\_ ALIVE \_\_\_\_\_ DEAD \_\_\_\_\_

SPECIES \_\_\_\_\_ ALIVE \_\_\_\_\_ DEAD \_\_\_\_\_

COMMENTS:

ADULT ESCAPEMENT SURVEY

LOCATION/CREEK Primrose Cr DATE 9/7/90

WEATHER Sunny

WATER CONDITIONS Low

VISABILITY Fair - Good OBSERVERS Treadwell, Winter

SPECIES Sage ALIVE 8 DEAD

SPECIES  ALIVE  DEAD

SPECIES  ALIVE  DEAD

COMMENTS:

# ADULT ESCAPEMENT SURVEY

LOCATION/CREEK Primrose Cr. DATE 9/28/89

WEATHER Overcast

WATER CONDITIONS Clear, low

VISIBILITY Good OBSERVERS M. Wenger

SPECIES Sockeye Salmon ALIVE 11 DEAD 0

SPECIES                      ALIVE                      DEAD                     

SPECIES                      ALIVE                      DEAD                     

## COMMENTS:

Set 10 minnow traps in creek - between mouth +  
confluence of Porcupine Cr. Fished traps overnight  
Fish caught:

- 61 Dolly Varden - from mouth to confluence
- 3 Sockeye fry - caught in lower 250 meters of stream.

United States  
Department of  
Agriculture

Forest  
Service

Chugach  
National  
Forest

Seward Ranger District  
P.O. Box 390  
Seward, AK 99664

---

Reply to: 2600

Date: 10/10/89

Subject: Primrose Mine - Fisheries

To: Dan Logan

#### Affected Environment

##### -Channel Types

Primrose Creek and Porcupine Creek are clear water tributaries of southern Kenai Lake which flow through steep canyon walls of shale and bedrock. The lower 400-500m of Primrose Creek has a moderate gradient (<5%) consisting of 80% riffle and 20% pools. Upstream of this point the creek has a steeper gradient (5-15%) predominated by fast riffles, interspersed with deep bedrock and shale pools. Approximately 2 miles upstream of the mouth is the ~75m Primrose Falls, with the mouth of Porcupine Creek 300m below the falls. Porcupine Creek is characterized by a steep gradient (5-15%), fast riffles, several narrow (<2m) rapid shoots, and 2 waterfalls of 3m and 8m. There are intermittent deep pools from the Primrose Mine downstream to the confluence with Primrose Creek (Figure 1).

Channel types were assigned for Primrose and Porcupine Creek by analyzing aerial photographs with a stereoscope. Upstream limits of each channel type are shown on figure 1. Channel type field verification will be done at a later date.

##### -Fisheries

Fish spawning and rearing habitat in Primrose and Porcupine Creek is limited because of steep gradient, fast flows, and several migration barriers. The Alaska Department of Fish and Game Anadromous Waters Catalog (1986) lists neither Primrose or Porcupine Creek as supporting salmon populations. A relatively small sportfishery exists at the mouth of Primrose Creek by campground users, primarily for dolly varden.

To assess the presence of fish in the Primrose Creek watershed below the Primrose Mine, 12 frye traps baited with cured salmon roe were fished for 24 hours in pool habitat on 9/29-9/30 (Figure 1). A total of 47 dolly varden (75-170mm), 3 sockeye salmon frye (55-85mm) and 3 sculpin were captured in Primrose Creek below the falls. In addition, 5 adult sockeye salmon were observed in the lower 400m of Primrose Creek. Trap #6, set immediately below



the first trail bridge crossing of an un-named tributary to Primrose Creek, caught 9 dolly varden (85-165mm). No fish were caught in the 4 traps set in the lower 1.5 miles of Porcupine Creek below the mine claim. Catch by each trap is listed below.

Catch by baited frye traps in Primrose and Porcupine Creek

TRAP #	TRAP LOCATION	Dolly Varden	Sockeye Frye/Adult
1	50m upstr. of mouth	5	0 / 0
2	200m upstr. of mouth	8	1 / 0
3	250m upstr. of mouth	4	2 / 3
4	350m upstr., above 1st rapids	6	0 / 2
5	450m upstr., above 2nd rapids	3	0 / 0
6	@ 1st brdg. cross., Primrose trib.	9	0 / 0
7	300m bel. Primrose-Porcupine conf.	19	0 / 0
8	Primrose-Porcupine Cr. confluence	2	0 / 0
9	Porcupine Cr. bel. 1st falls	0	0 / 0
10	Porcupine Cr. bel. 1st falls	0	0 / 0
11	Porcupine Cr., mine access trail	0	0 / 0
12	Porcupine Cr., 25m above mine shft.	0	0 / 0

The lack of baseline fisheries information on the Primrose Creek watershed, along with the timing and limited scope of this survey, make it difficult to determine the upstream extent of sockeye salmon in the system. Based on observations from the 9/29 - 9/30 survey it appears that if sockeye are spawning in Primrose Creek, it is limited to the lower .25 - .5 miles. Steep gradient and limited rearing habitat suggests that sockeye frye emerging from Primrose Creek may rear in Kenai Lake. To better understand the fishery resources of the Primrose Creek fishery, a follow up juvenile survey should be conducted in June/July 1990, as well as a peak run adult survey.

#### Environmental Consequences

##### -Fisheries

Based on the 9/29-9/30 survey of the Primrose Creek watershed and the ADF&G Anadromous Waters Catalog, it appears that Porcupine Creek does not support fish populations. Therefore, impacts to fisheries from operation of the G.G. Mining Company as described in Attachment A will be limited to the lower 2 miles of Primrose Creek. Actual mining practices and construction of the access road described in Alternatives II-VII should not considerably increase sediment deposition or downstream siltation of spawning gravels in Primrose Creek.

The primary concern to fisheries resources from the operating plan would be changes in water quality from the potential input of toxic minerals during mine excavation, transporting ore to the mine hopper on a steep gradient conveyor belt, and run off at bridge crossings associated with mine tailings used to surface the access road. More specific water quality concerns are described in the Hydrology section.

## Mitigation

### -Fisheries

Mining practices should be conducted following DEC guidelines to maintain minimum water quality standards. This should include:

Construction of a catch barrier outside the mine shaft and below the conveyor to prevent deposition of ore into Porcupine Creek during extraction and conveyor transport.

No mine tailings should be used on the access road surface within 300m? of all bridge crossings to minimize deposition of tailing contaminants from road runoff.

Large rock should extend 3m upstream and downstream of bridge culverts to filter run-off sediments.



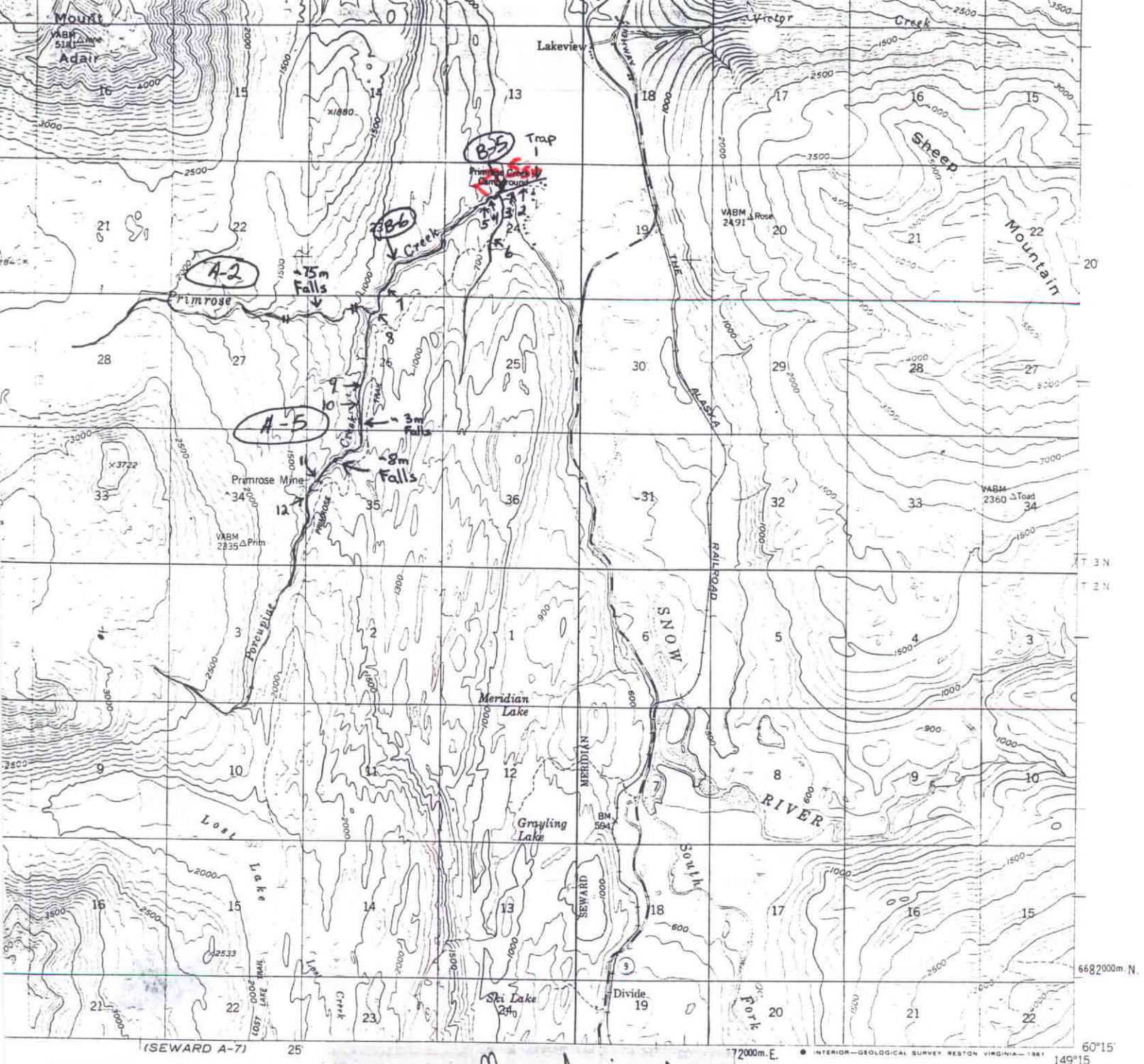


Figure 1 - Map showing fyke trap locations, chanel types, and location of major fish passage barriers.

add Ssr

Fig

add Ssr  
add Ssr  
add Ssr